l17_hessenbe (TMJXypt3KEeHXUvWSnaHrD1hgVok7S9uFep)

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Let $v2\_struct\_0 : \iota \Rightarrow o$ be given. Let $v2\_collsp : \iota \Rightarrow o$ be given. Let $v3\_collsp : \iota \Rightarrow o$ be given. Let $v4\_collsp : \iota \Rightarrow o$ be given. Let $v2\_anproj\_2 : \iota \Rightarrow o$ be given. Let $v3\_anproj\_2 : \iota \Rightarrow o$ be given. Let $v6\_anproj\_2 : \iota \Rightarrow o$ be given. Let $v7\_anproj\_2 : \iota \Rightarrow o$ be given. Let $l1\_collsp : \iota \Rightarrow o$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $r1\_collsp : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v2\_collsp\ X0) \wedge ((v3\_collsp\ X0) \wedge ((v4\_collsp\ X0) \wedge ((v2\_anproj\_2\ X0) \wedge ((v3\_anproj\_2\ X0) \wedge (l1\_collsp\ X0)))))) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X3.(m1\_subset\_1\ X3\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X4.(m1\_subset\_1\ X4\ (u1\_struct\_0\ X0)) \Rightarrow (((r1\_collsp\ X0\ X1\ X2\ X4) \wedge (r1\_collsp\ X0\ X1\ X3\ X4)) \Rightarrow ((r1\_collsp\ X0\ X1\ X2\ X3) \vee (X1 = X4)))))))) \tag{1}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v2\_collsp\ X0) \wedge ((v3\_collsp\ X0) \wedge ((v4\_collsp\ X0) \wedge ((v2\_anproj\_2\ X0) \wedge ((v3\_anproj\_2\ X0) \wedge (l1\_collsp\ X0)))))) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X3.(m1\_subset\_1\ X3\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X4.(m1\_subset\_1\ X4\ (u1\_struct\_0\ X0)) \Rightarrow (((r1\_collsp\ X0\ X1\ X2\ X3) \wedge (r1\_collsp\ X0\ X1\ X2\ X4)) \Rightarrow ((X1 = X2) \vee (r1\_collsp\ X0\ X1\ X3\ X4)))))))) \tag{2}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v2\_collsp\ X0) \wedge ((v3\_collsp\ X0) \wedge ((v4\_collsp\ X0) \wedge ((v2\_anproj\_2\ X0) \wedge ((v3\_anproj\_2\ X0) \wedge (l1\_collsp\ X0)))))) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X3.(m1\_subset\_1\ X3\ (u1\_struct\_0\ X0)) \Rightarrow ((r1\_collsp\ X0\ X1\ X2\ X3) \Rightarrow ((r1\_collsp\ X0\ X2\ X3\ X1) \wedge ((r1\_collsp\ X0\ X3\ X1\ X2) \wedge ((r1\_collsp\ X0\ X2\ X1\ X3) \wedge ((r1\_collsp\ X0\ X1\ X3\ X2) \wedge (r1\_collsp\ X0\ X3\ X2\ X1)))))))))) \tag{3}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge(l1\_collsp\ X0))\Rightarrow((v3\_collsp\ X0)\Leftrightarrow (\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0))\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0))\Rightarrow(\forall X3.(m1\_subset\_1\ X3\ (u1\_struct\_0\ X0))\Rightarrow(\forall X4.(m1\_subset\_1\ X4\ (u1\_struct\_0\ X0))\Rightarrow(\forall X5.(m1\_subset\_1\ X5\ (u1\_struct\_0\ X0))\Rightarrow(((r1\_collsp\ X0\ X1\ X2\ X3)\wedge((r1\_collsp\ X0\ X1\ X2\ X4)\wedge(r1\_collsp\ X0\ X1\ X2\ X5)))\Rightarrow((X1 = X2)\vee(r1\_collsp\ X0\ X3\ X4\ X5)))))))))) \tag{4}$$

Theorem 1

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v2\_collsp\ X0)\wedge((v3\_collsp\ X0)\wedge((v4\_collsp\ X0)\wedge((v2\_anproj\_2\ X0)\wedge((v3\_anproj\_2\ X0)\wedge((v6\_anproj\_2\ X0)\wedge((v7\_anproj\_2\ X0)\wedge(l1\_collsp\ X0)))))))))\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0))\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0))\Rightarrow(\forall X3.(m1\_subset\_1\ X3\ (u1\_struct\_0\ X0))\Rightarrow(\forall X4.(m1\_subset\_1\ X4\ (u1\_struct\_0\ X0))\Rightarrow(\forall X5.(m1\_subset\_1\ X5\ (u1\_struct\_0\ X0))\Rightarrow(\forall X6.(m1\_subset\_1\ X6\ (u1\_struct\_0\ X0))\Rightarrow(\forall X7.(m1\_subset\_1\ X7\ (u1\_struct\_0\ X0))\Rightarrow(\forall X8.(m1\_subset\_1\ X8\ (u1\_struct\_0\ X0))\Rightarrow(\forall X9.(m1\_subset\_1\ X9\ (u1\_struct\_0\ X0))\Rightarrow(\forall X10.(m1\_subset\_1\ X10\ (u1\_struct\_0\ X0))\Rightarrow(((r1\_collsp\ X0\ X4\ X5\ X7)\wedge((r1\_collsp\ X0\ X2\ X3\ X7)\wedge((r1\_collsp\ X0\ X5\ X6\ X8)\wedge((r1\_collsp\ X0\ X3\ X9\ X8)\wedge((r1\_collsp\ X0\ X4\ X6\ X10)\wedge((r1\_collsp\ X0\ X2\ X9\ X10)\wedge((r1\_collsp\ X0\ X1\ X4\ X2)\wedge((r1\_collsp\ X0\ X1\ X5\ X3)\wedge(r1\_collsp\ X0\ X1\ X6\ X9)))))))))\Rightarrow((X1 = X2)\vee((X1 = X3)\vee((r1\_collsp\ X0\ X1\ X4\ X5)\vee((r1\_collsp\ X0\ X1\ X4\ X6)\vee((r1\_collsp\ X0\ X1\ X5\ X6)\vee(((\neg r1\_collsp\ X0\ X4\ X5\ X6)\wedge(\neg r1\_collsp\ X0\ X2\ X3\ X9))\vee(r1\_collsp\ X0\ X8\ X10\ X7)))))))))))))))))$$